

Remarks/Arguments

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-3, 6 and 8 are presently active in the application, with Claims 1 and 3 amended, Claims 5, 7 and 9-18 withdrawn from consideration, and Claims 4 and 19-27 cancelled by the present amendment.

In the outstanding Office Action, the finality of the previous Office Action was withdrawn, the specification and drawings were objected to; Claims 1 and 3 was objected to; Claims 1 and 19 were rejected under 35 U.S.C. § 102 (e) as being anticipated by Wright (U.S. Patent No. 5, 841,468); Claims 2, 4 and 21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Wright as applied to Claims 1 and 19 above, and further in view of Pidgeon (U.S. Patent No. 5,153,763).

The drawings, specification, and claims are amended to correct the informalities noted in the Official Action. Claim 1 is amended to recite the features of original Claim 4, thus rendering moot the rejection under 35 U.S.C. § 102(e). Claim 1 is further amended to more clearly describe and distinctly claim Applicants' invention. Support for these amendments is found in Applicants' originally filed specification.¹ No new matter is added. No new matter is added.

Briefly recapitulating, amended Claim 1 is directed to an optical apparatus, comprising: a plurality of optical input paths, each of the input optical paths (170) connected to a corresponding one of a plurality of receiver nodes (103) and carrying a corresponding input light beam modulated by an input carrier signal modulated by an information signal, the input carrier signal having a radio frequency; and a plurality of optical output paths, each of

¹ Specification, Figure 1.

the output optical paths (215) connected to one of an array of head-end node receivers (243) and carrying a corresponding output light beam modulated by an output carrier signal modulated by the same information signal as the input carrier signal, the output carrier signal having a higher radio frequency than the input carrier signal. The optical apparatus also includes an optical upconverter means (180) for respectively converting the plurality of input light beams into the plurality of output light beams. The optical converter means connects the input optical path (170) to said output optical path (215).

The optical upconverter means (180) includes: a) optical receiver means (181) for converting the input light beam carrying the input carrier signal into an input electronic current signal carrying the same input carrier signal; b) electronic upconverter means (200) for converting the input electronic current signal modulated by the input carrier signal modulated by the information signal into an output electronic current signal modulated by the higher frequency output carrier signal modulated by the same information signal; and c) optical transmitter means (209) for converting the output electronic current signal carrying the higher frequency carrier signal into the output light beam carrying the same higher frequency output carrier signal. With the optical upconverter, signals from multiple consumer nodes may be sent to a common head node with reduced distortion and improved performance.²

Pidgeon discloses an optical CATV system configured to distribute cable TV signals from a head node to a plurality of consumer nodes. As noted in the Official Action, Pidgeon does not disclose or suggest Applicants' claimed optical upconverter.

Wright discloses a system and method for isolating data messages from subscribers in a CATV system by way of a fiber node having a receiver 52, a transmitter 50, and a plurality of transceivers 40 connected to an Ethernet switch 42. However, as noted in the Official

² Specification, page 25, line 26 – page 26, line 6.

Action, Wright does not disclose or suggest all the features recited in Applicants' original Claim 4. Therefore, Applicants submit that original Claim 4, and all claims depending therefrom, are not rendered obvious by the asserted prior art for at least the reasons stated above.³ However, to expedite progress towards an allowance, the language of original Claims 1 and 4, now combined in amended Claim 1, have been amended to more clearly describe and distinctly claim Applicants' invention. Thus, Applicants submit that Wright does not disclose or suggest the structure of Applicants' optical upconverter 180 now recited in amended Claim 1. Applicants also note that Claim 1 is recited in means-plus-function format and remind the Examiner that these claims are to be interpreted in view of the structure disclosed in the specification.⁴

Accordingly, in view of the present amendment and in light of the previous discussion, Applicants respectfully submit that the present application is in condition for allowance and respectfully request an early and favorable action to that effect.

Respectfully submitted,

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³ MPEP § 2142 "...the prior art reference (or references when combined) must teach or suggest **all** the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)."

⁴ In re Donaldson, 16 F.3d 1189, 29 USPQ2d 1845 (Fed. Cir. 1994), and MPEP 2181, "If a claim limitation invokes 35 U.S.C. 112, sixth paragraph, it must be interpreted to cover the corresponding structure, materials, or acts in the specification and "equivalents thereof." See 35 U.S.C. 112, sixth paragraph. See also B. Braun Medical, Inc. v. Abbott Lab., 124 F.3d 1419, 1424, 43 USPQ2d 1896, 1899 (Fed. Cir. 1997).